

Health of Home and School

LEAFLET NO. 17.

Issued by the State Department of Health of Maine.

Water for the Home and Farm.

The diseases which are spread by water supplies which are not good and pure are so frequent and serious that everybody should have correct information about these matters. It is hoped that this leaflet may give such information in a useful way.

Dangers from Impure Water.

This can best be shown by a few examples: In the spring of 1885, a man had typhoid fever in a house not far from the stream which supplied Plymouth, Pa., with its drinking water. The discharges from this one man while ill were washed into the stream, and although there were four reservoirs or ponds made by damming the river between this house and the place where the public water supply was taken out, there was a sudden outbreak in the city—1,104 cases with 114 typhoid deaths.

The city of Hamburg, Germany, in 1892, was taking its water from the river Elbe without purifying it by filtering or otherwise. Altona, joined right on to Hamburg, and really a part of it, had the same river water, but it was filtered. In that year Hamburg had a bad outbreak of Asiatic cholera. There were 18,000 cases and over 8,000 deaths. In Altona the death-rate per 100,000 of population was less than one-sixth as great as it was in Hamburg and many of these cases were among the people who worked in Hamburg and drank the bad water supplied in that city.

Taught by this terrible lesson Hamburg began to filter its water in May, 1893. Typhoid fever, before that, had been a severe plague to Hamburg. For instance, in the four years, 1885-1888, there were 15,804 cases. After the filtration of the water was begun the death-rate from typhoid fever dropped to but a little more than one-sixth of what it was before.

In Millinocket, in our own state, in the spring of 1901, a fire broke out. To fight the fire, water was pumped from the stream below the village sewer directly into the pipes which supplied the hydrants with water, and at the same time supplied the people with drinking water. By thus filling the water pipes with impure water a severe outbreak of typhoid fever was caused in Millinocket. But this was not all of it. Millinocket stream flows into the West Branch of the Penobscot. Bangor and Old Town, taking their supplies from the Penobscot River about seventy-five miles below Millinocket, both soon had very severe epidemics of typhoid fever by using the river water which had been polluted by the sewage from Millinocket and the infection from the cases of typhoid fever in that village.

Many other outbreaks of typhoid fever in Maine, great and small, might be cited to show how much trouble, cost and sorrow, people bring upon themselves by drinking impure water.

What Diseases are Caused by Impure Water.

The most frequent and severe diseases caused by impure drinking water are typhoid fever and cholera, but serious attacks of diarrheal diseases are spread in the same way, and water flowing through lead pipe very often causes serious and long-lasting illness among people who use the water, without their suspecting that the trouble is lead poisoning.

The Difference Between Polluted Water and Infected Water.

A well, as too many wells are, is too near the outhouse of a farm home. The filth drains or soaks into the well. The water of this well is polluted water. But, it may happen that none of the people using the

water for many years have typhoid fever or any disease that could be referred to the water.

But there comes to this home a person who is an "infection carrier." (See Leaflet No. 12, "Infection Carriers.") Then typhoid fever breaks out, and there are deaths, and there is life-long sorrow. That is because the polluted water has become infected.

Did you ever hear of anybody who had his well-water analyzed and it was found to be badly polluted and then the owner laughs at the idea, because he had drunk the water a dozen years or more and had not been hurt by it, as he thought?

And did you ever hear the story of Damocles over whose head a sword was suspended, hanging by a slender thread? Those who use polluted water are always in danger as was Damocles. The sword may fall any time. Polluted waters are those which are the most likely to become infected waters. A degree of prudence which common sense would dictate should keep us from using polluted waters.

How Wells and Springs are Polluted.

Pollution almost always comes about by carelessness in having wells too near the sources of filth,—outhouses, barn yards, drains, sewers, etc., or by carelessness in constructing them, or in not taking proper care of them afterwards.

In too many wells the stoning is not carried high enough to allow the surrounding ground to be graded off so the surface wash may be drained from the well. It runs directly in without filtering through the soil. Aside from properly grading off the surface surrounding the well, a good layer of puddled clay beneath the surface and sloping from the well, and extending a considerable distance from it, would give a good degree of additional security.

One Great Protection.

With ordinary soils it is a great protection against the pollution of wells if any surface soakage which finds its way into them has to travel a considerable distance through the soil to get there. It is because the soil can act, in some degree, as a filter. And there are other reasons.

But in some places the layers below the earth's surface do not afford protection. Gravel affords little or none. Sand is the best, and ordinary sandy or light loam the next best. A shallow soil and a waterproof layer of clay or ledge near the surface may carry foul soakage quite long distances into wells.

Drilled Wells.

Ledges often have seams or crevasses through which polluted drainage in its worst form may reach drilled wells, even if they are carefully cemented at the top. Even if you have wells thus carefully constructed, it is risky to allow the ground near the well to become filthy or to remain so.

Do Wells Require Ventilation?

It is a popular fallacy that wells need ventilation—that the water should be exposed to the air. In thus exposing it an abundant way is furnished for the admission of dust, dirt, worms, toads and other animals to die and to pollute the water. Pure water in the ground does not need the action of air.

Another Error.

Many people suppose that if water is clear and looks all right and tastes all right, it is all right. But some clear and sparkling waters, with no suspicious tastes, are dangerously polluted and infected.

Springs.

The same conditions which endanger wells may lead to the pollution of springs. They should have the same care as wells require. In their natural condition (unpolluted) the springs and wells of nearly all parts of Maine furnish good and pure drinking water.

The Golden Rule.

Truly the Golden Rule as applied to wells and springs is to keep the ground around them clean.